

L Number	Hits	Search Text	DB	Time stamp
-	2	6087403.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:16
-	2	5688930.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:46
-	3	"6344346"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:47
-	2	"6156543"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:48
-	13	"699472"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:48
-	8	"880538"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:49
-	75	"0014589"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:49
-	2	"0014589" and berth	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:51
-	10	"2816517"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 12:55
-	1	3450690.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:00
-	13	"699472"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:00
-	4	"062027"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:01
-	30	"62027"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:02
-	8	"2744648"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:04

-	8	"895805"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:05
-	9	"1027921"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:06
-	2	"9637285"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:08
-	10	"9513863"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:09
-	25	"9206778"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 13:09
-	0	"5688930" and fusel	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 14:16
-	0	"5688930" and amyl	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 14:57
-	470	fusel adj oil	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 14:57
-	0	(fusel adj oil) same adjuvsnt	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 14:57
-	6	(fusel adj oil) same adjuvant	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:29
-	3	(fusel adj oil) and polyglycoside	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:30
-	6	(fusel adj oil) and glycoside	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:32
-	88	(fusel adj oil) and adjuvant	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:32
-	2	(fusel adj oil) and glycosylation	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:32

-	1	(fusel adj oil) and glycosidation	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:33
-	23	(fusel adj oil) and solubilizing	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:36
-	6153	reducing adj sugar	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:36
-	61609	(acid acidic) adj catalyst	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:37
-	296	(reducing adj sugar) and ((acid acidic) adj catalyst)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:37
-	39	(reducing adj sugar) same ((acid acidic) adj catalyst)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:38
-	23	((reducing adj sugar) same ((acid acidic) adj catalyst)) and glycos\$	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:39
-	13	((((reducing adj sugar) same ((acid acidic) adj catalyst)) and glycos\$) and solubili\$	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:45
-	3	((((reducing adj sugar) same ((acid acidic) adj catalyst)) and glycos\$) and solubili\$) and fusel	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:39
-	332	(fusel adj oil) same alcohol	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:48
-	3	(fusel adj oil) same alkanol	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/30 15:49
-	72	(fusel adj oil) same (amyl adj alcohol)	USPAT	2002/12/30 16:27
-	0	((fusel adj oil) same (amyl adj alcohol)) and (solubilizing adj adjuvant)	USPAT	2002/12/30 16:28
-	7	((fusel adj oil) same (amyl adj alcohol)) and solubilizing	USPAT	2002/12/30 16:28
-	6978	amyl adj alcohol	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:16
-	6160	reducing adj sugar	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:16

-	53528	acid adj catalyst	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:17
-	3	(amyl adj alcohol) and (reducing adj sugar) and (acid adj catalyst)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:17
-	3	(amyl adj alcohol) and (reducing adj sugar) and (acid adj catalyst)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:19
-	978	pentyl adj alcohol	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 10:19
-	2	(reducing adj sugar) and (acid adj catalyst) and (pentyl adj alcohol)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:27
-	1261	alkyl adj glucoside	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:27
-	504	(alkyl adj glucoside) same surfactant	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:27
-	49	((alkyl adj glucoside) same surfactant) and (solubilization solubilizing)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:32
-	0	(alkyl adj glucoside) same (solubiliz\$ adj adjuvant)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:31
-	157	((alkyl adj glucoside) same surfactant) and (solubilization solubilizing)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:33
-	108	((alkyl adj glucoside) same surfactant) and (solubilization solubilizing) not ((alkyl adj glucoside) same surfactant) and (solubilization solubilizing))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 11:33
-	43	((alkyl adj glucoside) same surfactant) and (solubilization solubilizing)) and adjuvant	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/12/31 12:37

FILE 'CAPLUS, USPATFULL, AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUIRE,  
BABS, BIOCOMMERCE, BIOTECHNO, CABA, CAOLD, CBNB, CEABA-VTB, CEN, CERAB,  
CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, ENCOMPLIT, ENCOMPLIT2,  
FEDRIP, GENBANK, INSPEC, INSPHYS, INVESTEXT, ...' ENTERED AT 10:04:46 ON  
31 DEC 2002

L1 2781 S FUSEL OIL  
L2 93074 S ACID CATALYST  
L3 59159 S REDUCING SUGAR

=> s l1 and l2 and l3

46 FILES SEARCHED...

L4 4 L1 AND L2 AND L3

=> d kwic ti ab bib 1-4 l4

L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2002 ACS

TI Process for preparing solubilizing adjuvants from **fusel**  
**oils and reducing sugars**

AB Solubilizing adjuvants are prep'd. by the reaction of **fusel**  
**oils** with a **reducing sugar** in presence of an  
**acid catalyst** at a temp 50-130.degree., and removing the  
water from the reaction medium to obtain a soln. of alkyl glycosides which  
is then sepd. Thus, 630 g **fusel oil** contg. water 6,  
ethanol 3.2, 2-propanol 0.2, 1-propanol 0.2, 2-methyl-propanol 10.1,  
1-butanol 0.3, 3-methyl-butanol 55.3, 2-methylbutanol 21, and impurities  
1.9%. . . pressure for 3 h at 100.degree.. The water was then  
eliminated by azeotropic distn., the acid was neutralized, and excess  
**fusel oil** was evap'd. The alkyl xylosides thus obtained  
were dissolved in 100 g of water and discolored with 5 g of. . .

ST solubilizing adjuvant **fusel oil reducing**  
**sugar**

IT Rape oil

RL: RCT (Reactant); RACT (Reactant or reagent)  
(Me esters; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Glycosides

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(alkyl polyglycosides; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Glycosides

Xylosides

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(alkyl; process for prepg. solubilizing adjuvants from **fusel**  
**oils and reducing sugars**)

IT Surfactants

(amphoteric; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Surfactants

(cationic; process for prepg. solubilizing adjuvants from **fusel**  
**oils and reducing sugars**)

IT Essential oils

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(citrus; process for prepg. solubilizing adjuvants from **fusel**  
**oils and reducing sugars**)

IT Essential oils

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(eucalyptus; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Essential oils

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (grapefruit; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Surfactants  
 (ionic; process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT Essential oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (lavender; process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT Essential oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (mandarin orange; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Essential oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (mint, Mentha; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Surfactants  
 (nonionic; process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT Essential oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (orange, sweet; process for prepg. solubilizing adjuvants from  
**fusel oils and reducing sugars**)

IT Essential oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (pine; process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT Boiling point  
 Cosmetics  
 Detergents  
 Drug delivery systems  
**Fusel oil**  
 Perfumes  
 Preservatives  
 Solubilizers  
 (process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT Hexoses  
 Pentoses  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT Carbohydrates, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (~~reducing sugars; process for prepg. solubilizing~~  
 adjuvants from **fusel oils and reducing  
 sugars**)

IT Essential oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (rosemary; process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT 50986-18-0P, Arabinoside  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)  
 (alkyl; process for prepg. solubilizing adjuvants from **fusel  
 oils and reducing sugars**)

IT 89-83-8, Thymol  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (process for prepg. solubilizing adjuvants from **fusel**

oils and reducing sugars)

IT 151-21-3, Sodium dodecyl sulfate, biological studies  
 RL: COS (Cosmetic use); PRP (Properties); BIOL (Biological study); USES (Uses)  
 (process for prep. solubilizing adjuvants from fusel oils and reducing sugars)

IT 110-27-0, Isopropyl myristate 112-30-1, 1-Decanol  
 RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)  
 (process for prep. solubilizing adjuvants from fusel oils and reducing sugars)

IT 50-99-7, Glucose, reactions 58-86-6, D-Xylose, reactions 59-23-4, D-Galactose, reactions 64-17-5, Ethanol, reactions 67-63-0, 2-Propanol, reactions 71-23-8, 1-Propanol, reactions 71-36-3, 1-Butanol, reactions 78-83-1, reactions 123-51-3 137-32-6, 3458-28-4, D-Mannose 5328-37-0, L-Arabinose  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (process for prep. solubilizing adjuvants from fusel oils and reducing sugars)

TI Process for preparing solubilizing adjuvants from fusel oils and reducing sugars

AB Solubilizing adjuvants are prep. by the reaction of fusel oils with a reducing sugar in presence of an acid catalyst at a temp 50-130.degree., and removing the water from the reaction medium to obtain a soln. of alkyl glycosides which is then sep. Thus, 630 g fusel oil contg. water 6, ethanol 3.2, 2-propanol 0.2, 1-propanol 0.2, 2-methyl-propanol 10.1, 1-butanol 0.3, 3-methyl-butanol 55.3, 2-methylbutanol 21, and impurities 1.9% was reacted with 170 g D-xylose and 3.4 g sulfuric acid under reduced pressure for 3 h at 100.degree.. The water was then eliminated by azeotropic distn., the acid was neutralized, and excess fusel oil was evapd. The alkyl xylosides thus obtained were dissolved in 100 g of water and discolored with 5 g of 50% hydrogen peroxide at neutral pH. Use of the above alkyl xylosides as solubilizing adjuvant for perfumes, essential oils, and detergents is described.

AN 2002:426658 CAPLUS  
 DN 136:406616

TI Process for preparing solubilizing adjuvants from fusel oils and reducing sugars

IN Bertho, Jean-Noel; De Baynast, Regis  
 PA Agro Industrie Recherches et Developpements (A.R.D.), Fr.  
 SO Eur. Pat. Appl., 24 pp.  
 CODEN: EPXXDW

DT Patent  
 LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1211258	A1	20020605	EP 2001-402808	20011030
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	FR 2816517	A1	20020517	FR 2000-14589	20001114
	JP 2002220399	A2	20020809	JP 2001-344980	20011109
	US 2002099187	A1	20020725	US 2001-8791	20011113
PRAI	FR 2000-14589	A	20001114		

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 4 USPATFULL

TI Process for preparing solubilization adjuvants from fusel oils and saccharides

AB Process for preparing a solubilization adjuvant, which comprises placing

**fusel oils** in contact with one or more **reducing sugars** in the presence of an **acid catalyst**, at a temperature of between 50.degree. C. and 130.degree. C. and while removing the water from the reaction medium until. . .

SUMM [0002] **Fusel oils** form colourless or yellowish liquids, which have a characteristic odour. They have a density of about 0.83. Their boiling point. . .

SUMM [0003] **Fusel oils** are fatal co-products of alcohol fermentation. These oils, which are produced by yeast in anaerobiosis from nitrogenous materials, are recovered. . .

SUMM [0004] **Fusel oils** represent on average 2% to 5% of the ethanol manufactured. As the industrial production of ethanol in France is 3. . .

SUMM [0005] **Fusel oils**, occasionally referred to as "amyl oils" or "fusels", have compositions which vary depending on their origin (potato, beet, wheat, barley,. . .

SUMM [0013] One subject of the invention is a process for preparing a solubilization adjuvant, which comprises placing **fusel oils** in contact with one or more **reducing sugars** in the presence of an **acid catalyst**, at a temperature of between 50.degree. C. and 130.degree. C. and while removing the water from the reaction medium until. . .

SUMM [0014] The term "**reducing sugar**" means reducing saccharides chosen from aldoses such as threose, erythrose, xylose, lyxose, ribose, arabinose, glucose, galactose, mannose, idose, gulose, talose,. . .

SUMM [0015] The term "**reducing sugar**" also means uronic acids such as galacturonic acid, glucuronic acid or mannuronic acid. The term "**reducing sugar**" furthermore means non-reducing disaccharides and oligosaccharides such as, for example, sucrose which, in the presence of an **acid catalyst** such as sulfuric acid, lead to reducing monosaccharides. Finally, the term "**reducing sugar**" means mixtures of these sugars mentioned above.

SUMM [0019] Mixtures of **reducing sugars** mainly consisting of D-glucose and pentoses, especially D-xylose and L-arabinose, are most particularly appreciated. Preferably, use is made of mixtures of **reducing sugars** derived from hemicellulose-rich and/or starch-rich agricultural co-products such as, for example, wheat straw, raw or starch-freed wheat bran, starch factory. . . patent EP 0 699 472, agricultural co-products as defined in patent EP 0 880 538 and more particularly mixtures of **reducing sugars** containing from 25% to 98%, preferably 60% to 100% and more particularly 90% to 100%, of pentoses and 0% to. . .

SUMM [0020] The **reducing sugars** or mixtures of ~~**reducing sugars** may be crystallized or, preferably,~~

SUMM [0021] The first stage of the process according to the invention, commonly known as glycosylation, consists in placing **fusel oils** in contact with sugars in the presence of an **acid catalyst** while removing the water from the reaction medium. However, before the placing in contact, it is preferred to purify the **fusel oils**. This step is advantageously performed by rectification. It allows the removal of the heavy residues from the **fusel oils** (mainly consisting of impurities) which have boiling points of greater than 140.degree. C. In addition to the heavy fractions, it. . .

SUMM [0022] During the placing in contact, the alkanols contained in the crude or purified **fusel oils** are grafted onto the anomeric carbons of sugars to manufacture alkyl glycosides.

SUMM [0023] The placing in contact is performed in the presence of an **acid catalyst** such as sulfuric acid, a sulfonic acid such as methanesulfonic acid, hydrochloric acid or hypophosphorous acid or any other **acid catalyst** for carrying out a glycosidation, and mixtures thereof. This acid catalysis may also be carried out with 0.05 to 6. . . .

SUMM [0030] in neutralizing the **acid catalyst** and then in filtering off the salt obtained. The neutralization is performed, for example, using an alkali metal or alkaline-earth. . . .

SUMM [0036] The isolated product then has a percentage of alkanols derived from the residual **fusel oil** of between 0% and 5% and preferably between 0% and 1%.

SUMM [0053] In practice, there are three main routes for obtaining the adjuvants according to the invention from **reducing sugars** and **fusel oil**.

SUMM [0054] The first route consists in separately placing **fusel oils** in contact with a **reducing sugar**, in the presence of an **acid catalyst**, at a temperature of between 50.degree. C. and 130.degree. C. and while removing the water from the reaction medium, until. . . . alkyl glycosides is obtained, and in separating out the glycosides from this solution. Next, the alkyl glycosides manufactured from various **reducing sugars** are optionally mixed together in order to obtain the adjuvants according to the invention.

SUMM [0055] The second route consists in mixing together various **reducing sugars** and placing these mixtures of **reducing sugars** in contact with **fusel oils**, in the presence of an **acid catalyst**, at a temperature of between 50.degree. C. and 130.degree. C. and while removing the water from the reaction medium, until. . . .

SUMM [0056] Finally, the third route consists in using syrups of mixtures of **reducing sugars** derived from starch-rich and hemicellulose-rich plant starting materials containing from 25% to 98%, preferably 60% to 100% and more particularly. . . . to 75%, preferably 0% to 40% and more particularly 0% to 10%, of hexoses, and in placing these syrups of **reducing sugars** in contact with **fusel oils**, in the presence of an **acid catalyst**, at a temperature of between 50.degree. C. and 130.degree. C. and while removing the water from the reaction medium until. . . .

SUMM . . . 5 carbon atoms, mention may be made of ethanol, 2-propanol, n-butanol, 2-methylpropanol, 2-methylbutanol, 3-methylbutanol, n-pentanol and the alkanols contained in **fusel oils**.

DETD Synthesis of Solubilization Adjuvant From D-xylose and **Fusel Oils**

DETD [0147] 1277 g of **fusel oil** having the composition below:-----

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

DETD Synthesis of Adjuvant From L-arabinose and **Fusel Oils**

DETD [0150] 1441 g of **fusel oil** having the composition

below:

Constituent	%
Water	16.1
Ethanol	22.6
2-Propanol	0.2
1-Propanol	2.6
2-Methylpropanol	6.7
1-Butanol	0.3

DETD    Synthesis of Adjuvant From D-glucose and **Fusel Oils**  
DETD    [0153] 1277 g of **fusel oil** having the composition  
below:

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

DETD    [0156] Synthesis of Adjuvant From Mixtures of D-xylose, L-arabinose and  
D-glucose and **Fusel Oils**  
DETD    [0157] 1277 g of **fusel oil** having the composition  
below:

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

DETD    Synthesis of Adjuvant From Sugar Syrups Derived From Wheat Straw and  
**Fusel Oils**

DETD    ~~[0160] 1500 g of fusel oil having the composition~~  
below:

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

DETD    Synthesis of Adjuvant From Sugar Syrups Extracted From Starch-freed

Wheat Bran and **Fusel Oils**

DETD [0163] 1277 g of **fusel oil** having the composition below:

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

DETD Synthesis of Adjuvant From Sugar Syrups Extracted From Raw Wheat Bran and **Fusel Oils**

DETD [0166] 1277 g of **fusel oil** having the composition below:

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

DETD Synthesis of Adjuvant From D-xylose and **Fusel Oils**

DETD [0169] 150 g of D-xylose are placed in 740 g of **fusel oil** having the composition below:

Constituent	%
Water	10.0
Ethanol	6.0
2-Propanol	0.2
1-Propanol	2.1
2-Methylpropanol	9.3
1-Butanol	0.3

CLM --- What is claimed is: ---

1. A process for preparing a solubilization adjuvant, comprising placing **fusel oils** in contact with one or more **reducing sugars** in the presence of an **acid catalyst**, at a temperature of between 50.degree. C. and 130.degree. C. and while removing the water from the reaction medium until. . .
2. The process according to claim 1, comprising, before the placing in contact with one or more **reducing sugars**, removing the heavy fractions from the **fusel oils** which have boiling points of greater than 140.degree. C.
3. The process according to claim 2 comprising removing the heavy fractions from the **fusel oils** which have boiling points of greater than 140.degree. C., by distillation.

4. The process according to claim 1, comprising, before the placing in contact with one or more **reducing sugars**, removing the light fractions from the **fusel oils** which have boiling points of less than 100.degree. C.

5. The process according to claim 4 comprising removing the light fractions from the **fusel oils** which have boiling points of less than 100.degree. C., by distillation.

6. The process according to claim 1, comprising using, as **reducing sugars**, pentoses selected from the group consisting of L-arabinose and D-xylose.

7. The process according to claim 1, comprising using glucose as **reducing sugar**.

8. The process according to claim 1, comprising using, as **reducing sugars**, sugar mixtures comprising, on a weight basis, from 25% to 100% of pentoses selected from the group consisting of L-arabinose.

TI Process for preparing solubilization adjuvants from **fusel**  
oils and saccharides|  
AB Process for preparing a solubilization adjuvant, which comprises placing  
**fusel oils** in contact with one or more  
**reducing sugars** in the presence of an **acid**  
**catalyst**, at a temperature of between 50.degree. C. and  
130.degree. C. and while removing the water from the reaction medium  
until a solution of alkyl glycosides is obtained, and separating the  
glycosides from this solution.  
AN 2002:186264 USPATFULL|  
TI Process for preparing solubilization adjuvants from **fusel**  
oils and saccharides|  
IN Bertho, Jean Noel, Neuflyze, FRANCE  
de Baynast, Regis, Versailles, FRANCE  
PI US 2002099187 A1 20020725  
AI US 2001-8791 A1 20011113 (10)  
PRAI FR 2000-14589 20001114  
DT Utility|  
FS APPLICATION|  
LREP KNOBBE MARTENS OLSON & BEAR LLP, 620 NEWPORT CENTER DRIVE, SIXTEENTH  
FLOOR, NEWPORT BEACH, CA, 92660|  
CLMN Number of Claims: 25|  
ECL Exemplary Claim: 1|  
DRWN No Drawings  
LN.CNT 1061|

~~CAS-INDEXING IS AVAILABLE FOR THIS PATENT.~~

L4 ANSWER 3 OF 4 IFIPAT COPYRIGHT 2002 IFI  
TI PROCESS FOR PREPARING SOLUBILIZATION ADJUVANTS FROM **FUSEL**  
OILS AND SACCHARIDES  
AB Process for preparing a solubilization adjuvant, which comprises placing  
**fusel oils** in contact with one or more **reducing**  
**sugars** in the presence of an **acid catalyst**,  
at a temperature of between 50 degrees C. and 130 degrees C. and while  
removing the water from the reaction. . .  
ECLM 1. A process for preparing a solubilization adjuvant, comprising placing  
**fusel oils** in contact with one or more **reducing**  
**sugars** in the presence of an **acid catalyst**,  
at a temperature of between 50 degrees C. and 130 degrees C. and while  
removing the water from the reaction. . .

ACLM 2. The process according to claim 1, comprising, before the placing in contact with one or more **reducing sugars**, removing the heavy fractions from the **fusel oils** which have boiling points of greater than 140 degrees C.  
 3. The process according to claim 2 comprising removing the heavy fractions from the **fusel oils** which have boiling points of greater than 140 degrees C., by distillation.  
 4. The process according to claim 1, comprising, before the placing in contact with one or more **reducing sugars**, removing the light fractions from the **fusel oils** which have boiling points of less than 100 degrees C.  
 5. The process according to claim 4 comprising removing the light fractions from the **fusel oils** which have boiling points of less than 100 degrees C., by distillation.  
 6. The process according to claim 1, comprising using, as **reducing sugars**, pentoses selected from the group consisting of L-arabinose and D-xylose.  
 7. The process according to claim 1, comprising using glucose as **reducing sugar**.  
 8. The process according to claim 1, comprising using, as **reducing sugars**, sugar mixtures comprising, on a weight basis, from 25% to 100% of pentoses selected from the group consisting of L-arabinose.

TI PROCESS FOR PREPARING SOLUBILIZATION ADJUVANTS FROM **FUSEL OILS AND SACCHARIDES**

AB Process for preparing a solubilization adjuvant, which comprises placing **fusel oils** in contact with one or more **reducing sugars** in the presence of an **acid catalyst**, at a temperature of between 50 degrees C. and 130 degrees C. and while removing the water from the reaction medium until a solution of alkyl glycosides is obtained, and separating the glycosides from this solution.

AN 10155546 IFIPAT;IFIUDB;IFICDB

TI PROCESS FOR PREPARING SOLUBILIZATION ADJUVANTS FROM **FUSEL OILS AND SACCHARIDES**

INF de Baynast; Regis, Versailles, FR

Bertho; Jean Noel, Neuflize, FR

IN de Baynast Regis (FR); Bertho Jean Noel (FR)

PAF Unassigned

PA Unassigned Or Assigned To Individual (68000)

AG KNOBBE MARTENS OLSON & BEAR LLP, 620 NEWPORT CENTER DRIVE, SIXTEENTH FLOOR, NEWPORT BEACH, CA, 92660, US

PI US 2002099187 A1 20020725

AI US 2001-8791 20011113

PRAI FR 2000-14589 20001114

FI US 2002099187 20020725

DT Utility; Patent Application - First Publication

FS ~~CHEMICAL~~

APPLICATION

CLMN 25

L4 ANSWER 4 OF 4 WPIDS (C) 2002 THOMSON DERWENT

TI Production of alkyl glycosides useful as a solubilizing agents comprises reacting **fusel oil** with one or more **reducing sugars** in the presence of an **acid catalyst**.

AB FR 2816517 UPAB: 20020916

NOVELTY - Production of a solubilizing agent (I) comprises reacting **fusel oil** with one or more **reducing sugars** in the presence of an **acid catalyst** at 50-130 deg. C while removing water, and separating alkyl glycosides from the resulting solution.

DETAILED DESCRIPTION - INDEPENDENT.

TECH

UPTX: 20020916

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: The **fusel oil** is distilled to remove heavy fractions boiling above 140degreesC and light fractions boiling below 100degreesC. The **reducing sugars** are selected from L-arabinose, D-xylose, glucose and mixtures of 25-98 wt.% pentoses (especially L-arabinose or D-xylose) and 2-75 wt.% hexoses.

TT TT: PRODUCE ALKYL USEFUL SOLUBLE AGENT COMPRISE REACT **FUSEL OIL** ONE MORE REDUCE SUGAR PRESENCE **ACID CATALYST**.

TI Production of alkyl glycosides useful as a solubilizing agents comprises reacting **fusel oil** with one or more **reducing sugars** in the presence of an **acid catalyst**.

AB FR 2816517 A UPAB: 20020916

NOVELTY - Production of a solubilizing agent (I) comprises reacting **fusel oil** with one or more **reducing sugars** in the presence of an **acid catalyst** at 50-130 deg. C while removing water, and separating alkyl glycosides from the resulting solution.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an adjuvant (I') comprising a mixture of polyglycosides of formula  $RO(G1)a(G2)b(G3)c(G4)d(G5)e$  (II);
- (2) a composition comprising 10-60 wt.% (I') and 40-90 wt.% nonionic, anionic, amphoteric and/or cationic surfactants; and
- (3) a composition comprising 0.5-5 wt.% (I'), 2-7 wt.% 8-14C alkyl polyglycosides, 1-10 wt.% 2-5C alcohols and 0.1-3 wt.% lipophilic active ingredients

R = ethyl (0-20 wt.%), n-propyl (0-5 wt.%), isobutyl (0-15 wt.%), isoamyl (28-80 wt.%) and 2-methylbutyl (10-40 wt.%);

G1-G5 = sugar residues;

a-e = 0 or 1, provided that the sum of a-e is at least 1.

USE - (I) is useful for solubilizing lipophilic active ingredients, especially essential oils, in cosmetic, detergent, pharmaceutical and agrochemical compositions.

Dwg.0/0

AN 2002-492503 [53] WPIDS

DNC C2002-139863

TI Production of alkyl glycosides useful as a solubilizing agents comprises reacting **fusel oil** with one or more **reducing sugars** in the presence of an **acid catalyst**.

DC B07 C07 D21 D25 E19 F06

IN BERTHO, J; DE BAYNAST, R; BERTHO, J N

PA (ARDA-N) ARD AGRO IND RECH & DEV; (ARDA-N) ARD AGRO IND RECH & DEV SA;

(BERT-I) BERTHO J N; (DBAY-I) DE BAYNAST R

CYC 28

PI FR 2816517 A1 20020517 (200253)\* 40p

EP 1211258 A1 20020605 (200253) FR

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT

RO SE SI TR

US 2002099187 A1 20020725 (200254)

JP 2002220399 A 20020809 (200267) 16p

ADT FR 2816517 A1 FR 2000-14589 20001114; EP 1211258 A1 EP 2001-402808 20011030; US 2002099187 A1 US 2001-8791 20011113; JP 2002220399 A JP 2001-344980 20011109

PRAI FR 2000-14589 20001114